ABSTRACT

The invention relates to a method for operation of a control device for at least one ultrasound piezoelectric actuator, comprising an a.c. converter with an assembly having a transformer connected to a voltage source by means of at least one controlled switch and providing an alternating driving voltage for the actuator such that: the voltage (Vc) at the connections for the load comprising the transformer, a resonant inductance and the actuator, is a square wave with the fixed chopping frequency (fr), the current (Ic) flowing in the load is a periodic signal with resonant frequency (fo), such that the operational mode of the switches is of the type hypo-discontinuous, hyper-continuous or hypo-continuous. Said modes are obtained from the relationship of the transformation of the transformer and the inductance of the resonance determined as a function of the equivalent capacitance of the actuator. The above finds application to the injection of fuel in a thermal engine on a motor vehicle.